

2014 Annual Planning Meeting Pinedale Anticline Project Reclamation Summary

February 20, 2014



QEP Pinedale Division

Reclamation Types

General, Repair, Expansion, and Enhancement

- General Interim Reclamation – areas no longer needed for development operations
- Reclamation Repair – areas disturbed for production operations
- Reclamation Expansion – where long-term/working pad disturbances are no longer needed
- Reclamation Enhancement
 - Response to monitoring
 - May include alternate site-specific seed mixes
 - May include additional amendments (site-specific fertilizer)
 - Apply where plant establishment is inadequate
 - Apply to increase abundance of selected plants (inter-seeding grasses, forbs, or shrubs)

2013 Reclamation Summary

- 2013 Reclamation Actions - 14 pads, all with no current plans for further development
 - 3 new interim reclamations (39.4 acres)
 - 2 interim reclamation expansions (3.0 acres)
 - 3 interim reclamation enhancements (5.3 acres)
 - 3 interim reclamation expansions and enhancements (8.4 acres)
 - 3 interim reclamation repairs (2.1 acres)
- Current QEP Field-wide Reclamation – 71 pads with active interim reclamation
 - Total pad disturbance = 982 acres
 - Total pad reclamation = 615 acres (62.6%)
 - Total reclaimed pads with no current development plans = 38 (50.7%)
 - Total reclamation on pads with no current development plans = 422.1 acres (43%)
- 2014 Reclamation Plans - 11 pads, all with no post-2014 plans for further development
 - 6 new interim reclamations (66.3 acres)
 - 5 interim reclamation enhancements/expansions (19 acres)

General Interim Reclamation Procedures

- Removal of un-required facilities and materials/pit closures
- Delineate areas (working pad, reclamation, long-term topsoil storage)
- Strip available gravel for re-use
- Re-contour spoils/sub-soils
- Deep-rip spoils/sub-soils
- Re-spread topsoil (more on long-term storage area)
- Rip compacted topsoil as needed (rough surface)
- Prepare seedbed as needed (none, scarify, disc, compact)
- Seed with native grasses, forbs, and shrubs
 - At appropriate depths
 - High species diversity and seed density
 - Cover crop (bee plant)
- Mulch (1 – 1.5 tons/acre straw) and Crimp
- Install signage as needed
- Implement monitoring and weed control

Reclamation Monitoring, Assessment, and Research

- Monitoring – per PAPA Monitoring for Reclamation Success Document
 - Annual qualitative monitoring on all reclaimed pads (establishment, resilience, erosion, unwanted materials)
 - Year 3, 5, and 8 quantitative monitoring (cover, frequency, diversity)
- Assessment – Years 3, 5, and beyond
 - Limited quantitative data
 - No pads with excessive erosion
 - All pads trending towards higher sagebrush abundance
 - Recent reclamation procedures show improved forb and shrub abundance
- Research
 - Existing Reclamation Evaluations (success leads to modified procedures in future years, adding or removing species)
 - Inter-seeding process (best methods for increasing forb and shrub abundance on existing grass reclaim)
 - Containerized sage planting trial
 - WRRC database